BEFORE THE FEDERAL COMMUNICATIONS COMMISSION

Washington, DC 20554

In the Matter of

Petition of Bell Atlantic Telephone Companies for Forbearance from Regulation as Dominant Carriers in Delaware; Maryland; Massachusetts; New Hampshire; New Jersey; New York; Pennsylvania; Rhode Island; Washington, D.C.; Vermont; and Virginia

AFFIDAVIT OF KARL MCDERMOTT AND WILLIAM E. TAYLOR

ON BEHALF OF BELL ATLANTIC

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I. QUALIFICATIONS AND SUMMARY

- 1. Karl McDermott is a former Commissioner of the Illinois Commerce Commission ("ICC") and former head of its Telecommunications Policy Committee. As a former Commissioner, he has significant experience in applying economic and public interest principles to determining optimal regulatory constraints that should be applied to regulated firms in increasingly competitive markets. Dr. McDermott received a B.A. degree in economics from the Indiana University of Pennsylvania, an M.A. in Economics from the University of Wyoming and a Ph.D. in Economics from the University of Illinois. Dr. McDermott was President of the Center for Regulatory Studies at Illinois State University and has served as a research scientist at Argonne National Laboratory and as a researcher at National Regulatory Research Institute.
- 2. William E. Taylor is Senior Vice President of National Economic Research Associates, Inc. (NERA), head of its telecommunications economics practice and head of its Cambridge office. He received a B.A. degree in economics, *magna cum laude*, from Harvard College in 1968, a master's degree in statistics from the University of California at Berkeley in 1970, and a Ph.D. in Economics from Berkeley in 1974, specializing in industrial organization and econometrics. He has taught and published research in the areas of microeconomics, theoretical and applied econometrics, and telecommunications policy at academic institutions (including the economics departments of Cornell University, the Catholic University of Louvain in Belgium, and the Massachusetts Institute of Technology) and at research organizations in the telecommunications industry (including Bell Laboratories and Bell Communications Research, Inc.). He has participated in telecommunications regulatory, judicial and legislative proceedings before state public service commissions, the Federal Communications Commission ("FCC"), the Canadian Radio-Television and Telecommunications Commission, federal and state congressional

committees and state and federal courts concerning access charges, competition, incentive regulation, productivity growth, telecommunications mergers and pricing for economic efficiency. He has appeared as a telecommunications commentator on PBS radio and on The News Hour with Jim Lehrer. His articles have appeared in numerous telecommunications industry publications as well as *Econometrica*, the *American Economic Review*, the *International Economic Review*, the *Journal of Econometrics*, *Econometric Reviews*, the *Antitrust Law Journal*, *The Journal of Regulatory Economics*, *The Review of Industrial Organization*, and *The Encyclopedia of Statistical Sciences*. He has served as a referee for these journals (and others) and the National Science Foundation and as an Associate Editor of the *Journal of Econometrics*.

3. Bell Atlantic is requesting that the Commission forbear from regulating the price of its special access services in eleven states and the District of Columbia. In support of this petition Bell Atlantic has asked us to assess the competitiveness of the special access market and to evaluate whether the special access market meets the criteria set forth in the Telecommunications Act of 1996 ("the Act" or "the 1996 Act") to grant forbearance.

4. Our conclusions are:

- On average, approximately 90% of Bell Atlantic's special access demand in the states that are the subject of its petition can be served by competitors' existing facilities

 ranging from 82% to 100% in individual states. Under these circumstances, Bell Atlantic lacks market power since customers can readily switch to alternative suppliers.
- Under these circumstances, continued price cap regulation no longer serves the public interest because Bell Atlantic does not possess market power in the special access market. Customers can substitute away from Bell Atlantic's special access services in the event of a price increase.

¹ The jurisdictions covered by the Bell Atlantic petition are Delaware; Maryland; Massachusetts; New Hampshire; New Jersey; New York (including the Greenwich, Connecticut service area); Pennsylvania; Rhode Island; Washington, D.C.; Vermont; and Virginia.

- Continued regulation actually harms the public interest by preventing Bell Atlantic from offering services that are customized to meet Interexchange Carrier ("IXC") and large business user needs, thereby lowering overall economic welfare.
- Customers will benefit from the downward price pressure created by permitting Bell Atlantic to respond to offers made by other suppliers in the marketplace.
- 5. Under the circumstances presented here—where no market power exists because competitors have facilities in place that can serve a substantial fraction of customers—the forces of competition will serve the public interest better than continued price regulation.

II. CONDITIONS FOR REGULATORY FORBEARANCE

- 6. Our analysis focuses on the standards for forbearance that are set out in Section 10 of the 1996 Act. This new section states as follows:
 - (a) "[T]he Commission shall forbear from applying any regulation or any provision of this Act to a telecommunications carrier or telecommunications service, or class of telecommunications carriers or telecommunications services, in any or some of its or their geographic markets, if the Commission determines that—
 - "(1) enforcement of such regulation or provision is not necessary to ensure that the charges, practices, classifications, or regulations by, for, or in connection with that telecommunications carrier or telecommunications service are just and reasonable and are not unjustly or unreasonably discriminatory;
 - "(2) enforcement of such regulation or provision is not necessary for the protection of consumers; and
 - "(3) forbearance from applying such provision or regulation is consistent with the public interest."²

That section also provides that forbearance is consistent with the public interest if the Commission concludes that forbearance will promote and enhance competition.

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² §401 of the Act. Emphasis added.

"(b) COMPETITIVE EFFECT TO BE WEIGHED.—In making the determination under subsection (a)(3), the Commission shall consider whether forbearance from enforcing the provision or regulation will promote competitive market conditions, including the extent to which such forbearance will enhance competition among providers of telecommunications services. If the Commission determines that such forbearance will promote competition among providers of telecommunications services, that determination may be the basis for a Commission finding that forbearance is in the public interest."

As we demonstrate in Sections III and IV below, the standards are amply satisfied in the case of special access services in the twelve jurisdictions that are the subject of Bell Atlantic's petition.

III. FORBEARANCE FROM REGULATION IS APPROPRIATE

7. Forbearance from pricing regulation is appropriate when market power is lacking. After determining the scope of the relevant product and geographic markets, we conclude that Bell Atlantic lacks market power in those markets for four reasons. First, there are no significant barriers to entry — indeed competitors have already entered these markets in significant force and have facilities in place from which they can serve the vast majority of special access customers. Second, these competitors can readily expand their capacity to accommodate additional demand. Third, demand is concentrated among a small number of large customers who have significant purchasing power. Fourth, the extent to which Bell Atlantic has already lost business further demonstrates that entry is both present and irreversible.

A. Special Access Services

8. Special access service consists of a dedicated transmission path connecting an end user's premises to an Interexchange Carrier's (IXC's) Point of Presence ("POP"). Bell Atlantic is only permitted to provide special access within a Local Access Transport Area ("LATA"). There are two clearly identified sets of customers for special access services. The first set consists of IXCs, firms like AT&T, MCI/WorldCom and Sprint that purchase special access capacity in order to provide long distance and other related telecommunications services to

³ *Ibid.* Emphasis added

large business users. The second set consists of large sophisticated business end-users who purchase large volumes of voice, data and video services directly from Bell Atlantic. High volume end users are the focus in both customer sets because special access is economical compared with ordinary switched services only for customers that generate sufficient usage. Typically, end users who purchase special access are served by dedicated facilities such as DS-1⁴ or higher capacity facilities and often have Private Branch Exchanges ("PBX").

- 9. For purposes of our analysis, we have defined the relevant product market as the market for special access services, purchased from telecommunications firms as well as self-supplied. These include special access services that are provided to IXCs for the provision of long distance services to large business customers, special access services that are sold directly to large business customers, and special access services that are self-supplied. Self supply is included because when faced with significant and permanent price increases, special access customers may find it economical to self-provide a direct connection between the end user and the POP. Indeed, some customers (such as AT&T and MCI) already supply a significant portion of their own special access services. While it is possible (and in some cases probable) that other services also compete with special access services, we have defined the market narrowly for present purposes to demonstrate that forbearance is warranted even under conservative assumptions.
- 10. The relevant geographic market is more difficult to determine, especially for telecommunication services. The Department of Justice ("DOJ") Merger Guidelines provide a clear definition of the geographic component of an economic market for antitrust and merger analysis:

the geographic market [is] a region such that a hypothetical monopolist that was the only present or future producer of the relevant product at locations in that

⁴ DS-1 is a transmission path that is equivalent to 24 voice grade circuits.

region would profitably impose at least a "small but significant and nontransitory" increase in price, holding constant the terms of sale for all products produced elsewhere ⁵

The idea is to determine what would happen if all producers of a product in a given geographic area were to raise their price above the competitive level. If products produced at locations outside the region were sufficiently attractive that the attempt to raise prices decreased demand enough to be unprofitable, then the initial geographic area was drawn too narrowly and should be expanded.

11. It is awkward to apply this notion to telecommunications services. Special access services connect an IXC's POP to an end user at their existing locations. The concept of bringing substitute goods in from other geographic areas in order to make a price increase in a given area unprofitable does not work easily for special access services. The services in question are point-to-point connections, and a point-to-point connection cannot be transported from other parts of the region.⁶ Of course, a price increase in a given area may well induce competing firms that already are operating in other locations to enter the area that is subject to the price increase. Nonetheless, given the nature of these services, it is probably not useful to perform a geographic market analysis in the standard manner that is applied for other types of goods. That is, it is not useful to start with the city center and ask whether or not the sole provider of the service in circles with larger and larger diameters could profitably raise its price above the competitive level. Instead, one should begin with a larger geographic area and focus on Bell Atlantic's ability to unreasonably price discriminate—i.e., to charge substantially different prices unrelated to cost or demand differences—in different regions of that geographic area. For example, if Bell Atlantic were able to offer different prices unrelated to cost or demand (product differentiation, bundling, etc.) conditions in different parts of a state, then it

⁵ U.S. Department of Justice and Federal Trade Commission, "Horizontal Merger Guidelines," April 2, 1992.

⁶ This does not imply that suppliers are not able to build facilities to serve the customer's need. Supply elasticities are discussed further below.

would be inappropriate to include them in a single statewide geographic markets. Otherwise, prices in one area affect prices in other areas, and it would be appropriate to include those areas in the same geographic market.

- 12. The smallest possible geographic area is an individual customer location while the largest is the entire country or globe. In between, there are wire centers, MSAs, LATAs and state or national boundaries. Taking into account the characteristics of special access services, we find that examining market power conditions on a statewide basis is appropriate because Bell Atlantic is unable to unreasonably price discriminate in different areas of states in which competitors have access to a large portion of the customer base. This is the case for a number of reasons.
- 13. First, special access purchases are dominated by a small group of customers: large IXCs, large business customers and Federal and state governments. Excluding state government customers, they account for over 80 percent of special access demand in the Bell Atlantic states at issue here, according to Mr. McCullough's affidavit. These customers make purchasing decisions on a statewide (or national) basis and very often will conduct requests for proposals (RFPs) from multiple vendors and in some cases purchase services from multiple suppliers. They are likely to have multiple sites throughout the state so that they can leverage their business in dense metropolitan areas into rural area locations by requesting aggregated bids for access services. In effect, the small set of large buyers of access services can use the buying power they have in the urban market—where multiple suppliers (CAPS, CLECS and ILECs) are played off against each other—in order to receive price reductions for special access services statewide. If a supplier of access services attempted to price discriminate or charge

⁷ Scherer has pointed out that, "It seems clear that countervailing power can and does lead to lower transfer prices, at least in the middle ground of oligopsonistic market structure where sellers are few enough to recognize their interdependence." See, e.g. F. Scherer, Industrial Market Structure and Economic Performance p. 250 (2d.ed. 1970); earlier recognition of this monopsony/oligopsony condition led Wiltel to suggest: "to prevent exercise of

unjust rates in rural markets, the large purchaser of these services could threaten to move its urban purchases to a competitor. Thus the large buyer of special access service can use the successful entry of competitors in the urban areas to control prices in rural areas without constructing competitive facilities in these areas. Such leverage has the effect of moving competitive resources from one market to another. Other special access customers are also able to take advantage of such leveraging even if they do not demand services in both rural and urban markets because they can purchase special access services anywhere in the state from the IXCs.

14. This leveraging of competition in dense urban areas is not just a theoretical possibility. According to the affidavit of Mr. McCullough and information obtained from Bell Atlantic, two recent RFPs for SONET-based access services were issued by a large IXC and by the federal government for region-wide services in both densely populated urban areas and rural areas. Bell Atlantic's potential ability to exert market power in the rural areas would be mitigated by its need to win the bid. The state of Virginia recently issued a comprehensive RFP for statewide voice and data services, requiring statewide, flat pricing at levels 15 percent below any other rate on a future quote basis. The Commonwealth of Pennsylvania is interested in a single flat rate for each service anywhere in the state. The Commonwealth structured its RFP specifically to encourage new businesses to locate in the more rural areas of Pennsylvania. Finally, the state of Vermont has asked for statewide flat rate pricing for distance-sensitive services.

AT&T monopsony power, the Commission may need to require that [CAPs] offer switched access service under tariffs using the same benchmarking standards which we have previously demonstrated as requirements for LEC access pricing." Comments of Wiltel, Inc, CC Docket 91-141 (Transport, Phase I), p. 4, footnotes omitted. A more appropriate strategy, however, is to allow this leverage to work for the benefit of consumers as the Commission has previously recognized: "Denying the LECs [pricing] flexibility...will not prevent larger IXCs from obtaining discounts, either from CAPs or through self-supply, but will only prevent them from getting discounts from the LECs. Thus, a ban on discounts would disadvantage the LECs without providing small IXCs the benefits they seek to achieve." See Expanded Interconnection with Local Telephone Company Facilities, CC Docket No. 91-141, Second Report and Order, FCC 93-379, released September 2, 1993, Phase I Order at ¶ 117.

- 15. Analysis based on smaller geographic areas (such as wire centers, MSAs or LATAs) incorrectly ignores the fact that many special access customers purchase service across the entire state. In these circumstances, examination of smaller rural areas in isolation would lead to incorrect conclusions.
- 16. Second, geography plays a smaller role in determining the price of special access services compared with products or services where transport costs are important. A customer's volume of demand almost entirely determines its choice between special and switched access, and the volume of demand that makes special access attractive to end-users is not greatly affected by geography. At a certain volume of traffic, it makes more sense to rent your own pipe than to pay to use a common pipe. A large corporate office building in a rural area will find it economically feasible to purchase special access if its long distance demand volume reduces the unit cost of special access below the cost of switched access. Special access is not as subject to the economies of density as switched access, and the marginal cost of fiber transmission is not influenced greatly by distance. Thus geography is less relevant in determining the market price for special access than it is for most other products and services.
- 17. Finally, there are relatively few special access customers in a large percentage of Bell Atlantic's wire centers. Most of the customers are found in the more urban parts of the states. For example, Table 1 illustrates that a relatively small number of wire centers account for the vast majority of special access demand.

⁸ Fixed costs, however, are affected by distance and for this reason average costs may be higher in rural areas. This has to be set against the fact that structure costs in rural areas may be less expensive because rights-of-way may be cheaper and burying cable may not be as necessary as it is in urban areas.

Table 1: Percent of equivalent DS1 demand, by state, in major Bell Atlantic wire centers and the percent of wire centers that account for the demand by state.

State	Percent DS1 Equivalent	Percent of State's WC	
Delaware	95.6	21.2	
Maryland	94.5	21.7	
Massachusetts	87.9	24.4	
New Hampshire	91.0	9.6	
New Jersey	94.3	31.9	
New York	94.6	21.8	
Pennsylvania	89.4	19.2	
Rhode Island	93.9	43.3	
Vermont	80.1	4.9	
Virginia	95.1	24.9	
Washington DC	99.4	60.0	
Total BA Area	92.9	20.0	

Source: Bell Atlantic Data

Table 1 presents the percent of each state's equivalent DS1 channels that are contained within the major Bell Atlantic wire centers⁹ and the percent of an individual state's wire centers that can be categorized as major Bell Atlantic wire centers. These wire centers are predominantly in urban and suburban areas. As can be seen, targeting a relatively small number of wire centers gives competitors access to almost all special access customers

B. Market power analysis

18. Having identified the relevant product and geographic market for purposes of our analysis, we apply traditional economic techniques in order to assess Bell Atlantic's proposal for forbearance in the 12 jurisdictions that are the subject of this petition. As noted above,

⁹ Major Bell Atlantic wire centers are those wire centers that are in the top 20 percent of Bell Atlantic's wire centers as measured by equivalent DS1 channels.

some 90% of the special access demand in these jurisdictions can be served by existing competitors – ranging from 82% to 100% in individual states.

1. Barriers to entry

19. We begin by examining the role played by entry barriers. The primary reason that a supplier can charge unjust or unreasonable prices or engage in unreasonable price discrimination is the possession of market power. The Commission has defined market power as the ability to raise prices by restricting output. What makes competition effective as an antidote to market power is the absence of entry barriers and the ability of customers to substitute away from products or services whose price is increased. In almost every major writing on competition, these factors play the central role in eliminating market power and disciplining price, since the search for profits induces entrepreneurs to seek out price-cost differences and enter these markets. Under these circumstances, the process of competition and arbitrage will remove the ability of firms to exercise market power for any meaningful time period because resources can be mobilized by competitive suppliers or purchasing power can be shifted by buyers to alternative suppliers to force prices to competitive levels.

¹⁰ See Motion of AT&T Corp. to be Reclassified as a Non-Dominant Carrier, Order, FCC 95-427 (rel. October 23, 1995), para 4-7 ("AT&T Reclassification Order"). See also, Competitive Carrier Fourth Report and Order, 95 FCC 2d at 558 ¶ 7,8 (citing A. Areeda & D. Turner, Antitrust Law 322 (1978)); Broadcast Music v. Columbia Broadcasting System, 441 U.S. 1, 20 (1979); W.M. Landes & R.A. Posner, Market power in Antitrust Cases, 94 Harv. L. Rev. 937, (1981). The 1992 Department of Justice/Federal Trade Commission Merger Guidelines similarly defines market power as "the ability to profitably maintain prices above competitive levels for a significant period of time." 1992 Department of Justice/Federal Trade Commission Merger Guidelines, 4 Trade Reg. Rep. (CCH) ¶ 13, 104 at 20, 569 (1992 Merger Guidelines). The time factor is important since the more mobile the resources the faster the response will be to any price increase thus limiting market power.

¹¹ See, e.g. F. Scherer, Industrial Market Structure and Economic Performance 11,252 (2d.ed. 1970) ("Sellers have little or no enduring power over price when entry barriers are non-existent"); W. Kentz "Mobility Factors in Antitrust Cases: Assessing market power in Light of Conditions Affecting Entry and Fringe Expansion" Michigan Law Review, Vol. 80, 1545 August 1982 ("virtually all economists agree, however, that a firm will have no meaningful degree of market power if fringe competitors can expand capacity promptly or new firms can enter the market quickly with no disadvantage"); J.S. Bain, "Price and Production Policies", in A Survey of Contemporary Economics (AEA), Volume 1 (where he identifies the difference between perfect and imperfect competition as the differences in factory mobility). Customer mobility is also critical aspect to market competition (see A. Hirshman, Exit, Voice and Loyalty, Harvard University Press (1970)).

- 20. Economic theory indicates that demand and supply characteristics determine the number of competitors that can efficiently serve a market. Special access markets were one of the first local markets to experience significant competitive entry. Special access customers are purchasers of large amounts of telecommunications services. The competitive entry has resulted in lower prices thereby increasing total quantity demanded in the market. This has lowered the minimum efficient size of production relative to total market demand, thus increasing the ability of competitors to compete. From a cost standpoint, technological advances in fiber optic circuits, switching (including packet switching and the convergence of voice, video and data) and the digitization of the network have led to lower per-unit costs and increased competitors' ability to compete. From a theoretical perspective, it seems clear that special access markets can support more than one provider and do not contain natural monopoly characteristics.
- 21. From a practical standpoint, because significant entry has occurred, barriers to entry cannot be considered to be an obstacle. That is, the ability of competitors to enter the market, deploy infrastructure and serve customers indicates that barriers to entry are not prohibitively high. Evidence in this application (discussed in greater detail below) clearly indicates that Bell Atlantic has lost and is continuing to lose special access customers. Competitors are deploying more and more facilities in an attempt to serve special access customers and to gain economies of scope by offering broader packages of telecommunications services. Bell Atlantic's filing includes an attachment that presents a competitive analysis for each Bell Atlantic state, describing the competitors operating in the state, the type of facilities they have in place and where they have them. From the analysis, it seems clear that barriers to entry have not discouraged entry. Competitors not only exist, but they are growing and continuing to invest.

¹² Further below we present some cost estimates of deploying and expanding facilities.

- 22. CLEC activities—placing facilities and capturing customers—are not confined to the large urban markets. As summarized in the attachments to the Bell Atlantic petition, more and more CLEC networks are being placed in operation in smaller "urban" areas such as Harrisburg, Pennsylvania; Charlottesville, Virginia; Springfield and Lawrence, Massachusetts; and Union and Morristown, New Jersey. There is evidence that fiber deployment is reaching rural areas as well. A recent article in *Telephony* discussed fiber buildup plans by AT&T in rural areas, stating that "In these areas, there's a huge demand for service that can be provided over fiber that isn't being met..."¹³
- 23. Additional evidence of the lack of entry barriers can be inferred from Table 2 below which presents fiber miles deployed by the Regional Bell Operating Companies (RBOCs) and CAPs since the mid 1980s. As shown in Table 2, CAP investment in fiber is growing at a significantly higher rate than that of the RBOCs. By 1997, CAP fiber mile deployment comprised almost 13 percent of the total. While 13 percent may not seem terribly large, the current fiber capacity can serve a good deal more than 13 percent of the market because optical fiber capacity can be readily expanded electronically, almost without limit. What is more important is the difference in fiber growth rates between RBOCs and CAPs: by the end of 1996, the CAPs' percentage growth was almost seven times that of the RBOCs, and although it has decreased since then, it was still more than three times that of the RBOCs by the end of 1997.

¹³ Sarah Schmelling, "AT&T, DTG make rural buildout plans" *Telephony*, August 24, 1998. This confirms our assertion that demand conditions in rural areas are conducive to competition. To the extent current rural demand is not being supplied statewide, price averaging is partly responsible.

Table 2: Fiber Miles Deployed, RBOCs and CAPs.

Year	RBOC	CAPs	CAPs (% Growth) /
	(% Growth)	(% Growth)	RBOCs (% Growth)
1991	40	49	1.2
1992	34	50	1.5
1993	28	88	3.1
1994	20	71	3.6
1995	18	62	3.4
1996	15	104	6.9
1997	13	39	3.0

Source: FCC, Fiber Deployment Update, End of Year 1997

a. Cost to deploy fiber

24. In addition, there is evidence to show that competitors can readily expand capacity. The installation of fiber-optic rings has become a very common activity in the telecommunications market. The proliferation of rings is primarily a result of the tremendous amount of capacity that fiber can carry, coupled with the especially strong, recently-emerging demand for high-speed services. Fiber-optic rings can in fact be quite small, as is the case in Wilmington, Delaware, where Delmarva Power and Light planned to build a 5-mile underground fiber optic ring around the city;¹⁴ and they can be quite large, such as Qwest Communications' Macro Capacity Fiber Network, a 16,000 mile coast-to-coast network to be finished in 1999 that will serve 125 cities across the U.S. (which include cities where about 80 percent of the country's voice and data traffic originates).¹⁵ By July, 1998, Qwest finished 233 miles of the network, connecting New York City to Philadelphia, and Washington, D.C.¹⁶

25. The initial cost of the ring can vary significantly because it is dependent on a number of factors including obtaining rights-of-way, the terrain, the expected bandwidth, and other endogenous factors such as structure costs, cable costs and equipment costs. Additionally, if

¹⁴ "Electric Taps Into Telecommunications," Rural Telecommunications, Jan/Feb 1997.

^{15 &}quot;The Moore's Law of Bandwidth," Communications News, October 1998.

¹⁶ "Owest: Qwest Lights Network from New York to Washington, D.C.," EDGE, July 13, 1998.

the cable is carried underground, terrain can be a significant factor. Ciena Corporation, a Savage, Maryland-based company that manufactures electronics used in fiber rings, estimates that the average cost of creating new underground fiber-optic routes is about \$70,000 per mile.¹⁷

26. A fiber-optic ring, however, will generate little revenue without customers, and the cost of attaching a customer to the ring can be significantly less than the start-up cost. Mr. McCullough's affidavit contains estimates for connecting new customers to a ring. He estimates the costs for trenching at approximately \$3/foot, and fiber costs at approximately \$2.25/foot. So for about \$30,000, competitors can reach an end user customer who is about one mile from their fiber facilities. He also states that in metropolitan areas competitors can lease duct space for about \$5/foot, or contract with other entities, such as power/gas companies or owners of subway/rail systems at lower rates. In some Bell Atlantic service areas, such as Massachusetts, duct rates are as low as \$1.20/duct per foot. 19

2. Demand and supply characteristics

27. The Commission has recognized the importance of market demand and supply characteristics in the past in assessing market power. For example, in the First Interexchange

¹⁷ Ciena Corporation Form S-1, Securities and Exchange Commission, filed December 12, 1996.

This number falls within the range of two other numbers that are publicly available. For example, in Palo Alto, California, where the municipal utility constructed a 15-mile ring, the city is offering CAPs like Teleport and Brooks Fiber access to the ring to provide high-speed voice, data and video services. Van Hienke, who oversees the operation of the fiber ring, states that connections to the ring have ranged from \$5,000 to \$25,000, with an average cost of \$10,000. This cost, though, is simply for the cable connecting the customer to the ring, so it excludes equipment costs, which will vary depending on the capacity of the connection. In addition, a recent study produced by Power Engineers, Inc. (PEI) for US West Communications, Inc. estimated that on average it would cost \$40,886 per customer to connect every US West Phoenix Arizona hi-cap customer to the nearest CAP route. This average ranged from \$29,596 to connect customers less than 1,000 feet from the nearest route to \$71,126 for customers greater than 4,000 feet from the nearest route.

¹⁹ Price Cap Compliance Filing – 1997, Bell Atlantic-Massachusetts, filed with the Massachusetts Department of Telecommunications and Energy.

Competition Order²⁰ and in its Order on the Motion of AT&T Corp to be Reclassified as a Non-Dominant Carrier (the "Non-Dominant Order"), the Commission affirmed and reaffirmed the finding that business customers are highly demand elastic.²¹ A demand-elastic customer has the power to move its purchasing power or money resources among alternative suppliers on very short-term notice. In some cases these customers engage in multiple simultaneous contracts with suppliers to ensure that options are available.

- 28. The same analysis applies to the segment of the business customer market that purchases special access services and facilities. These customers are sophisticated and knowledgeable and understand the economics and the technologies of the telecommunications service choices they face. According to Mr. McCullough's affidavit, Tier 1 carriers (AT&T/TCI/Teleport, MCI/WorldCom, and Sprint) are the largest single block of special access customers, accounting for over 50 percent of special access demand. When large business and the Federal government are taken into account, the fraction of special access demand consumed by large and sophisticated customers rises to 80 percent.
- 29. In the Non-Dominant Order, the Commission cited a study by Professor Michael Porter regarding the competitiveness of the long distance market.²² Professor Porter found that business customers have significant bargaining power with suppliers for a variety of reasons. These customers have the ability to self-supply which creates a price ceiling that suppliers must meet. They also have sophisticated knowledge of telecommunications and rely heavily on

²⁰ First Interexchange Competition Order, 6 FCC rel., 5887.

²¹ In the Matter of Motion of AT&T to be Reclassified as a Non-dominant Carrier, ("Non-Dominant Order"), FCC 95-427 at ¶ 65.

²² Michael E. Porter, "Competition in the Long-Distance Telecommunications Market," September 1993. The AT&T nondominance order, ¶ 64, cites this study when concluding that demand elasticity considerations supported the conclusion that AT&T is nondominant in long-distance.

network outsourcers. This characterization is especially pertinent to special access services because Tier 1 IXCs are the major purchasers and outsourcers of special access.

30. Because of the importance of one-stop shopping and the constraints Bell Atlantic currently faces regarding provision of interLATA services, competitors are able to offer a differentiated package of services. Bell Atlantic is not currently able to provide these types of services that are being requested by customers, and this inability places it at a competitive disadvantage, making it more likely that customers will take their demand to other suppliers. While Bell Atlantic's entry into interLATA services is expected soon, IXCs and CLECs will still have the first-mover advantage in supplying packaged services. In addition, packaging permits product differentiation, which can play an important role in enticing customers to switch. Constraints on Bell Atlantic's special access pricing also allow competitors to differentiate their services from those of the incumbent:

The above scenario of incumbent LECs and IXCs providing discrete connectivity would continue forever but for CLECs. To compete successfully, CLECs are taking advantage of special access pricing to bundle multiple services over a single network connection and applying the bundled pricing to differentiate their offerings. And by providing billing, OSS and other key attributes around the basic connectivity, CLECs have added a new package to access called multiservices.²³

31. There is an additional factor to consider. The Tier 1 IXCs can threaten to (and actually have) vertically integrate into the access supply function thereby moving their access demand away from Bell Atlantic's network. The current consolidation among the largest IXCs and CAPs ensures that IXCs can self-supply carrier access service to many customers. The recent mergers between AT&T and Teleport and between MCI and WorldCom/MFS are examples of this type of activity. In fact, cost synergies realized as a result of the mergers—especially

²³ Mihir Mohanty, "Access and beyond" *Telephony*, October 5, 1998.

access savings—were an important factor behind the mergers. According to Prudential analysts Guy Woodlieft and Michael D. Carruthers, 45 to 55 percent of the \$1.1 to \$1.5 billion cost synergies of the AT&T/Teleport merger are due to access savings.²⁴ Jack Grubman and Sheri McMahon of Salomon Smith Barney make the same point concerning the MCI/WorldCom merger in showing how the merger savings increase from \$2.5 billion in 1999 to \$5.6 billion in 2002. Reduced monthly fees to access other carrier networks are an important component of these savings.²⁵ Analysts expect WorldCom—through its previous acquisitions of MFS and Brooks Fiber—to provide MCI with more than 70 percent of its access capacity, and AT&T, through its purchase of TCG, is expected to avoid a significant portion of ILEC access services.²⁶

32. The Commission has also identified supply elasticities as critical components of a market power analysis. In the Orders previously cited, the Commission found that supply is sufficiently elastic to constrain market price if either competitors have excess capacity or barriers to entry are low so that additional capacity can be quickly added to the market. We have already discussed the extent of entry barriers in this market and concluded that they are low. Regarding current excess capacity, competitors have placed significant quantities (miles) of fiber optic capacity as summarized in Table 2 and in the attachment to Mr. McCullough's affidavit. In fact, one CLEC boasts that it has sufficient capacity to handle all of the business data traffic of other carriers combined while in other cases, the fiber capacity is described as nearly limitless.²⁷ The Federal Trade Commission states that: "evidence of actual entry,

²⁴ Guy W. Woodlief and Michael D. Carruthers, "AT&T Company Update" *Prudential Securities Research*, January 21, 1998, at 3.

²⁵ Jack B. Grubman and Sheri McMahon, "Combination with MCI Creates the Only Legitimate Telecom Large-Cap Growth Stock" Salomon Smith Barney, April 9, 1998, at 17.

²⁶ Salomon Smith Barney, "WorldCom, Inc. Company Report," April 9, 1998 and Prudential Securities, "AT&T Company Update," January 21, 1998.

²⁷ In a recent press release, MCI WorldCom states that its network "has capacity so vast it can carry all of the data traffic of all other carriers combined." MCI WorldCom On-Net Rewrites the Rules for Communications, September 28, 1998; Robert Annunziata, Chairman, President and CEO of Teleport Communications Group,

especially recent and frequent new entry, is highly probative."²⁸ Entry into facilities-based supply of special access services is recent and constant. It is also frequent in the sense that new players are continuously entering the scene. This entry is permanent, because as recognized by the Commission, facilities in place are sunk so that when a firm exits the market, a new firm will simply acquire the capacity which will continue to provide an alternative source of supply to the incumbent LEC's customers.²⁹

3. Market share analysis

33. The use of market share as a tool to examine market power is common in antitrust and merger proceedings. However, in telecommunications and other regulated industries—industries that are in transition to competition—relying on market share analysis likely leads to significant errors. Inferring the presence of market power from current market share data is inherently backward-looking and ignores the fact that regulatory changes make the present and future different from the past. Because of regulatory barriers to entry, an incumbent like Bell Atlantic started with practically 100 percent of the market, but this fact has little significance in assessing the incumbent's current and future market power. Nevertheless, keeping in mind the caveats just mentioned, examining *changes* in market share, particularly growth in the amount

recently stated: "In the second stage, the CLEC starts filling its <u>near-limitless</u> optical fiber and broadband wireless capacity by increasing its range of service..." see, "Minimizing entanglements, maximizing competition", adapted from Comments of Robert Annunziata on the Second Anniversary of the Telecommunications Act of 1996, TCG, February 1998 at 6.

"As Professor Spulber has observed, "[e]ven in the unlikely event that [LECs' interexchange affiliates] could drive one of the three large interexchange carriers into bankruptcy, the fiber-optic transmission capacity of that carrier would remain intact, ready for another firm to buy the capacity at distress sale and immediately undercut the {affiliates'} noncompetitive prices."

This logic suggests, that in the case of special access services, competition is irreversible and permanent.

²⁸ Federal Trade Commission, Statement Concerning Horizontal Mergers, Washington D.C., 1982. Cited in David L. Kaserman and John W. Mayo, "Deregulation and Market Power Criteria: An Evaluation of State Level Telecommunications Policy" in John R. Allison and Dennis L. Thomas ed. <u>Telecommunications Deregulation</u>: Market Power and Cost Allocation Issues (Westport, Conn: Greenwood Press, 1990).

²⁹ The Commission has noted this possibility in the Access Change Reform Order (¶ 281) stating:

of business served by competitors, can be useful additional evidence, since it provides information about the market forces currently impinging on the incumbent firm's services.

- 34. Any measure of market share, however, should be measured correctly. Market share can be measured in terms of output, revenues, or productive capacity. As recognized by the Commission in its Non-Dominant Order, for network-based telecommunications markets, the appropriate measure of share is generally capacity.³⁰ If rivals have capacity in place that can be brought on line at low additional cost so that the customer has a real choice of suppliers, the incumbent firm cannot exercise market power.
- 35. Market share and demand and supply elasticities measure market structure, which affects market power through the mobility of resources in the market. Landes and Posner have summarized this interaction between the elasticity of market demand, the supply elasticity of fringe competitive firms and the market share of the firm being examined for its ability to exercise market power.³¹ If the firm in question faces a falling market share and the elasticities of market demand and supply are large, then resources can flow readily in and out of the market, and the firm in question will have very little market power.
- 36. In the special access market, these measures of factor mobility have evolved rapidly. Bell Atlantic's market share for special access service (and other incumbent carriers as well) has significantly eroded as CLECs have targeted the urban markets where significant special access business exists. According to a report by Quality Strategies Inc., in 18 areas surveyed by the first quarter of 1998 (1Q 1998), Bell Atlantic's average market share loss for high capacity

³⁰ Motion of AT&T Corp. to be Reclassified as a Non-Dominant Carrier, Order, 11 FCC Rcd 3271, 3357, 1995.

³¹ Landes and Posner (op. cited) modify the Lerner index as follows: $L = S/(e_m + (1-S)e_s)$ where S = market share of the firm, e_m is the elasticity of market demand and e_s is the elasticity of supply of the fringe competitors. As L increases/decreases market power increases/decreases.

services was 31.7 percent.³² This loss represents a 76.1 percent change from 1Q 1995. More significantly, the data reveal that the greatest percent changes in market share loss during the 1995-1998 time period were in smaller-sized areas, presumably because major urban areas were already competitive and competitors were expanding their geographic scope.³³ This special access high capacity data is quite significant for the evaluation of the special access market since approximately 86 percent of Bell Atlantic's special access demand is for high capacity services.³⁴

4. Local exchange competition

37. It is also important to identify the extent to which local exchange competition is growing in Bell Atlantic's territory. Bell Atlantic's special access competitors are increasingly offering a package of telecommunications services including local exchange and long distance, so that an increase in the ability of Bell Atlantic's competitors to offer local exchange services is relevant in measuring market power for special access. There are currently more CLECs than ILECs in the U.S.,³⁵ and in the first quarter of 1998, CLECs added more business access lines than all of the Bell Operating Companies combined.³⁶ The competitive position of the CLEC industry has reached in two years what it took MCI over ten years to achieve after long distance markets were opened to competition.³⁷

The 18 areas were: Boston, Southern-Midtown Manhattan, Greater Metro (NY), New Jersey Competitive Areas, New Jersey tier 1 (Jersey City, Union City, Hackensack, New Brunswick, and Newark), New Jersey tier 2 (Princeton and Atlantic City), Princeton, Philadelphia, Pittsburgh, Baltimore, Washington DC Metro, Washington DC City, Suburban Maryland, Northern Virginia, Richmond, Norfolk and Roanoke-Lynchburg.

³³ Richmond (386.5%), Norfolk (181.8%), Princeton (142.9%), New Jersey tier 2 (129.4%).

³⁴ To calculate this percentage we divided Bell Atlantic's high capacity DS1 equivalents by total special access DS1 equivalents.

³⁵ 1,429 CLECs holding 2,844 competitive local exchange certificates compared with 1,332 ILECs, according to the *State Telephone Regulation Report*, Vol. 16, No. 19, September 18, 1998 at 1.

³⁶ Salomon Smith Barney Report, "CLECs Surpass Bells in Net Business Line Additions for First Time," May 6, 1998.

³⁷ Ibid.

- 38. An examination of Bell Atlantic's *Competition Progress Report* shows that competitors are present and growing rapidly.³⁸ A telling piece of evidence of the emergence of competition in Bell Atlantic serving areas is the number of Bell Atlantic collocation arrangements. This figure has grown from approximately 400 (November 1997) to over 900 (November 1998) with hundreds more under construction. Furthermore, from November 1997 through November 1998, the number of lines served by Bell Atlantic's competitors has more than doubled—600,000 to approximately 1,400,000. As of November 1998, Bell Atlantic had more than 69,000 unbundled loops in service—almost a 100 percent increase since a year earlier. Moreover, the number of resold lines has more than doubled during 1998, reaching more than 568,000 by November alone. Resold lines have grown, on average, almost 12 percent each month since September 1997.
- 39. Competitors are entering Bell Atlantic territory at a rapid pace. Over a span of a year (November 1997 November 1998), the number of approved agreements has increased over 150 percent—from 240 to 610. Over this same time frame, the number of interconnection trunks in operation has risen from 212,000 to more than 550,770—an increase of almost 160 percent. Another clear indication that Bell Atlantic faces growing competition is the increase of the number of exchange codes processed for use by Bell Atlantic competitors. During this one-year period, the number of exchange codes processed for use by competitors has increased by almost 200 percent.

C. Bell Atlantic's special access customers have alternatives available

40. Not only is the amount of competitive capacity that has been deployed almost "limitless" to use a competitor's own description, but that competing capacity has been deployed in areas that give the overwhelming majority of special access customers access to a competitive alternative. Here, however, Bell Atlantic only seeks forbearance where at least

³⁸ Competition Progress Report, Bell Atlantic, Thomas J. Tauke and Edward D. Young, III, September 1997 – July 1998.

75% of the demand in a state is subject to a competitive alternative – a concept sometimes referred to as "addresssability." Under the circumstances presented here, where such a large proportion of the market is already addressable by competitors, the incumbent firm will be unable to exert power over the market price.

- 41. Economic theory contains no bright lines in the determination of market power,³⁹ but here the leverage that large buyers have is extensive. The fact that customers already have competitive alternatives covering 75% of demand means that the majority of customers who order special access in multiple sites can leverage their buying power into the less than 25 percent of the market currently without facilities-based competitors. If the supplier attempted to raise the price of special access in areas where competitors do not yet have an established presence, buyers could use their size in the areas where competitors do have a presence to obtain price concessions elsewhere, defeating any attempt to exert market power through unjust prices or price discrimination.
- 42. Table 3 below shows the addressability percentage for the Bell Atlantic states that are the subject of this petition. As can be seen from the table, in many of the Bell Atlantic states, competitors already reach a far higher percentage of the demand than 75 percent.

³⁹ See R. Schmalensee and W. Taylor, "Comments on the USTA Pricing Flexibility Proposal," filed as Attachment 4 to the <u>United States Telephone Association</u> Comments, Federal Communications Commission (CC Docket 94-1) on behalf of the United States Telephone Association, filed May 9, 1994.

Table 3: Bell Atlantic calculation of special access demand exposed to competitive alternative, by state.

State	Percent Addressable (June 1998)	
Washington DC	99.9	
Delaware	96.6	
Vermont	96.9	
New York (incl. CT)	92.3	
Massachusetts	92.1	
New Jersey	90.7	
Pennsylvania	88.1	
New Hampshire	87.6	
Maryland	84.1	
Virginia	82.4	
Rhode Island	82.2	

Source: Bell Atlantic Data

43. Examination of Bell Atlantic data reveals that competitive entry in only a few wire centers is sufficient to reach most special access demand. Table 4 presents an analysis at the level of individual LATAs of the percentage of wire centers having collocation and the percentage of DS-1 equivalents addressed by those collocated wire centers. For example, in the Altoona (Pennsylvania) LATA, although fewer than 7 percent of all wire centers have collocation, these wire centers address more than 80 percent of DS-1 equivalent channels. In the Albany, New York LATA (134), only 2.3 percent of the wire centers have collocation, but CLECs in these wire centers can address over 60 percent of Bell Atlantic's DS-1 equivalent channels.

Table 4: Collocated Wire Centers' Share of DS-1 Equivalent Channels

LATA Number	LATA Name	Percent Collocated	% Share of DS-1 in Coll. WCs
122	New Hampshire	12.4%	86.4%
124	Vermont	7.1%	62.5%
126	W. Massachusetts	16.9%	70.1%
128	E. Massachusetts	34.8%	91.7%
130	Rhode Island	23.3%	79.4%
132	New York Metro	58.7%	95.6%
133	Poughkeepsie	2.3%	54.0%
134	Albany	2.3%	60.1%
136	Syracuse	6.1%	78.4%
138	Binghamton	8.6%	81.3%
140	Buffalo	5.1%	74.5%
222	Delaware Valley	20.7%	63.8%
224	North Jersey	26.3%	87.9%
226	Harrisonburg	26.8%	88.4%
228	Philadelphia	51.3%	90.2%
230	Altoona	6.9%	81.0%
232	Northeast	22.1%	85.8%
234	Pittsburgh	22.5%	83.7%
236	Washington, DC	43.5%	88.4%
238	Baltimore	32.3%	78.6%
240	Hagerstown	18.8%	42.7%
242	Salisbury	8.3%	58.4%
244	Roanoke	11.8%	67.4%
246	Culpepper	6.1%	0.1%
248	Richmond	11.5%	82.2%
252	Norfolk	17.9%	68.8%

Source: Bell Atlantic Data.

IV. FORBEARING FROM REGULATION IS IN THE PUBLIC INTEREST

44. There are several ways that regulatory forbearance for special access services would generate economic welfare gains and be in the public interest. Forbearance can lead to: (i) greater pricing flexibility and more rational market-responsive pricing by Bell Atlantic; (ii) greater flexibility to offer services most desired or needed by customers; and (iii) more efficient

competition through symmetry or parity between regulated and unregulated providers of similar services. We address each in turn.

A. Greater pricing flexibility

45. Efficient competition is supposed to reward the most productive and innovative suppliers (and penalize those less so), while also providing customers with the benefit of truly competitive prices. For these things to happen, firms must have the freedom to respond quickly and comprehensively to market pressures and competitive developments. Pricing flexibility (subject to overall prohibitions on anticompetitive or unreasonably discriminatory behavior) is an essential part of this process. If regulatory forbearance is denied in a market in which effective competition already exists, then the regulated firm will be prevented from either participating in or responding to that state of competition. Without pricing flexibility for *all* participants in a competitive market, potential efficiency gains that could benefit customers would simply go unrealized.

B. Greater flexibility to offer new services

46. Given the significant differences in customers' demand, there is a natural tendency for a firm to attempt to differentiate its offerings from those of its competitors. The amount of differentiation that is possible is obviously circumscribed by consumer needs and tastes, technology, and other market factors. However, in an effectively competitive market, firms will attempt to compete on both a price and a non-price basis. A crucial part of a competitive firm's arsenal is its ability to provide customized services or service packages. In telecommunications, the success of such a strategy can go a long way toward determining which competitors survive and thrive in the long run, and which do not. That is because many different telecommunications services can be transmitted to consumers over the same channel (e.g., a wireline or wireless connection to the service provider). While a consumer may remain free to seek out different suppliers for different telecommunications needs, that consumer would always retain the option to receive all of their services from a single source that offers customized or integrated service packages.

47. Telecommunications has had a long history of both differentiated services and customer-specific arrangements. In Illinois, for example, special contracts were frequently granted for Ameritech Illinois for services that the Illinois Commission deemed to be competitive. This contracting ability permitted the Company to develop creative packages of services with minimal regulatory intrusion. Unregulated carriers, of course, have the unfettered ability to provide customized services or packages under contract. These arrangements are a sign of maturity in the industry. While they are unquestionably good for telecommunications carriers themselves, more importantly, they provide enhanced value and economic welfare to consumers.

C. Competitive symmetry or parity

48. A fundamental precept in economic theory is that the elimination of any artificial distortion *directly* enhances economic efficiency and welfare. Unnecessary regulation can distort the terms on which regulated and unregulated firms that provide similar services can compete. In such markets, regulation should not be the instrument of choice for policing the behavior of participating firms. If competition is effective already, market forces themselves can be counted upon to exert discipline and the necessary restraint on firm behavior. Stated differently, if some measure of regulation remains necessary for firms even in effectively competitive markets, then every effort should be made to ensure competitive parity between the regulated firms and their unregulated counterparts. This would be particularly true of those segments of the regulated firms' activities where specific regulation is not necessary. For example, even though Bell Atlantic (either as an overall corporate entity or in specific parts of its switched access-based operations) may remain subject to regulation for some time longer, such regulation should not be allowed to distort the terms on which Bell Atlantic competes with other suppliers of special access services in effectively competitive markets.

- 49. The specific example of pricing flexibility illustrates why competitive symmetry or parity is imperative in an effectively competitive market such as special access. In that market, firms would typically use both upward and downward pricing flexibility. If a firm in that market is restricted (due to regulatory reasons) from targeted reductions in its service price when market conditions so warrant, the level at which its average price is currently fixed can become the basis for different forms of strategic action by its unregulated competitors. One obvious possibility is that those competitors could lower their prices (and do so more often) below the level set for the regulated firm's price. Without the ability to respond quickly and fairly, consumers lose the benefit of the most efficient price, and the economy will suffer from a suboptimal use of resources. Another possibility is that the regulated firm's price could become a de facto umbrella for the prices charged by the unregulated firms. This possibility would loom large if it is the presence of the regulated firm that makes the market effectively competitive in the first place. If that firm's ability to compete on price is hamstrung by regulation, the other firms may face considerably less pressure to compete on price as well. Clearly, in that situation consumers would be worse off and economic welfare would suffer.
- 50. Additionally, the ability to offer contract pricing is important. Contract pricing permits suppliers to tailor individual packages to the unique needs of users. Users benefit because they have a source of supply that takes into account their particular utility and demand characteristics. Suppliers benefit because contract pricing minimizes risks and permits the supplier to pass on the savings from lower risks in the form of lower prices. Both parties are clearly better off.
- 51. Another clear benefit from regulatory forbearance of Bell Atlantic's special access services would be the elimination of the need to provide advance notice of tariff changes, or to

disclose supporting cost data. As the FCC has recognized,⁴⁰ these vestiges of regulation from a previous era can serve no useful purpose in effectively competitive markets today. As observed in the long distance market, such restrictions can inadvertently encourage tacit price coordination among competitors, thereby raising costs for consumers.⁴¹ Instead, by eliminating *unnecessary* restraints on pro-competitive activities, forbearance would greatly enhance the quality and durability of competition for special access in their respective markets (as well as in downstream markets). The result would most certainly be a gain in economic efficiency and welfare.

V. CONCLUSIONS

52. For all the reasons discussed above, we conclude that continued price regulation of Bell Atlantic's special access services in the 12 jurisdictions that are the subject of its petition is no longer necessary or in the public interest and that forbearance will enhance competition.

⁴⁰ See supra, fn 20, Second Report and Order in CC Docket No. 96-149 and Third Report and Order in CC Docket No. 96-61, at ¶182.

⁴¹ In the Matter of Motion of AT&T Corp. to be Reclassified as a Non-Dominant Carrier, FCC 95-427, released October 23, 1995.

Subscribed and sworn to before me this 5 th day of January, 1999

My Commission expires 9.-17-3000

"CFFICIAL STAL"
Joyce Ann Boll

Notary Public, many of illinois

My Commission Expnes 9/17/00

Villiam E. Taylor

Subscribed and sworn to before me this 17th day of December, 1998

Notary Public

My Commission expires 9 - 18 - 03